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MODERN- HOME Building.





MODERN HOME BUILDING.

A TIMELY ARGUMENT FOR
IMPROVEMENT IN HOUSE
CONSTRUCTION. ❁ ❁ ❁ ❁

CENTRAL EXPANDED METAL CO.,

531 Wood Street, Pittsburg, Pa.

MERRITT & CO.,

1024 - 1028 RIDGE AVE.

PHILADELPHIA, PA.



CEMENTINE HOUSES, AIKEN AVENUE, PITTSBURGH, ERECTED 1892.
CONSTRUCTION--EXPANDED METAL ATTACHED DIRECTLY TO WOOD STUDDING, AS FOUNDATION FOR
CEMENT EXTERIOR FINISH.

An Ounce of Prevention.

There is an old proverb about locking the stable door after the horse has been stolen that is applicable to a great many conditions in life. Its constant recurrence in every day affairs is but another illustration of how much easier it is to look backward and regret disasters than it is to look forward and prevent them.

An interesting example is to be found in the annual fire loss of this country.

Statistics show not only that it is the largest fire loss of any country in the world, but that fully three-fourths of it is chargeable directly to faulty construction.

Yet, in the face of all this, many builders persist in the use of old-fashioned, fire inviting materials.

To be sure, they save a few dollars in the first cost; and usually the saving is of a nature that does not affect the outward appearance of the building. It is on the inside, between the walls and floors, where only time and the test of fire brings it to light. But when the test does come, it is simply another case of the stable door and the stolen horse.

Then there is the constant worry and uncertainty in the ownership of a building that is of faulty construction; the fear that fire may come, and the knowledge that when it does, only the destruction of the building will satisfy its greedy appetite.

All these considerations, together with the fact that insurance rates are always higher on buildings not put up on the fire-proof plan, make that insignificant saving in first cost about the most unsatisfactory economy that a man can practice.

Wood Lath.

The staunchest friend the fire fiend has in the whole list of house building materials is wood lath.

There are other agencies that invite the starting of fires—plenty of them—but it is the unstable character of the wood lath that aids the spread of the flames and insures the destruction of the building.

And it is a remarkable fact that of all the civilized countries in the world, this is the only one in which the use of wood lath is general. In England it is used in the cheaper class of buildings, but facilities for heating are not so advanced there as they are in this country, and the wood retains its moisture much longer, hence is not nearly so inflammable as it is in America, where the artificial evaporation of winter so admir-

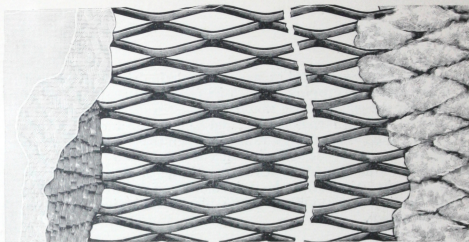
ably takes the place of the natural heat of the summer season. The only possible argument in favor of the use of wood as a base for holding the mortar, is its cheapness. It is a little lower in price than a good metal lath. Perhaps it always will be, but there are a great many cheap things that are not at all desirable—that would not be desirable if they did not cost anything at all.

Wood lath does not become imbedded in the mortar. A key is formed on the inside sufficient to hold the plaster in place, but the largest part of the inside surface is bare and is soon dried out to such an extent that the first touch of fire loosens the plaster, and away the building goes like a tinder box.

And water is almost as disastrous in its effect. A leaky roof or bursted water pipe saturates the wood lath so that it expands and breaks the mortar key. The ceiling then having

no support, cracks, and as soon as the lath dries out down it comes, often destroying more in its fall than the right kind of lath for the whole house would cost.

Plaster itself is incombustible, and so long as it can be kept on the walls and ceilings it is a comparatively easy matter to control any fire that may show itself. But wood lath cannot be made to hold mortar securely. Either heat or dampness loosens its grip, and in many instances efforts to put out the flames only serve to displace the plaster and give the fire a clean sweep.



EXPANDED METAL LATH, FULL SIZE MESH, SHOWING "KEY" OF MORTAR, FRONT AND BACK.

Expanded Metal Lath.

There are a number of different kinds of metallic lathing on the market. Some of them are good, some indifferent, some almost as bad as the wood itself.

The principal trouble with most of them is that they do not become entirely embedded in the mortar, hence do not hold it firmly enough to defy either fire or water.

Expanded Metal Steel Lath overcomes this difficulty. In fact, it overcomes all the difficulties encountered by the user of ordinary lathing, as is shown in the illustration on the opposite page.

We believe that it is the best lath that has ever been made. And our faith in it is fully justified by the fact that although it has been used in hundreds of buildings—chiefly of the most

hazardous kind—in no single instance has a house in which it has been applied been destroyed or seriously damaged by fire. Numerous fires have occurred, to be sure, but in every instance they have either gone out of their own accord, from inability to spread, or have been easily extinguished with a few buckets of water.

Expanded Metal Lath is made from sheet steel, unusually tough and of fine texture. It is cut with the grain and pushed out, or expanded into diamond shaped meshes, the flat surface of each mesh being forced to an angle of 45 degrees with the surface of the sheet itself. By this peculiarity of construction it is made to present its smallest surface to the mortar as applied, and its largest in the line of resistance to pressure. Each mesh is independent of all the others, and numerous strands can be cut without materially weakening the fabric.

There is nothing like it, and nothing equal to it as a base for holding mortar.

It is in a class all by itself—the highest class that has yet been reached by inventive genius.

Mortar passes through it easily, keys itself and forms a solid protection on the reverse side. When it hardens, the lath is so solidly embedded in it that it will withstand the most intense heat that can be thrown against it or the most thorough flooding to which it can be subjected. Tests that have been made show it to be practically impossible to remove the plaster by any ordinary means once it has become thoroughly set.

Expanded Metal Lath is in use in nearly all the new insane asylums of the country, and in a great many of the churches, school houses, hospitals, hotels, theaters and large office buildings.

In edifices where costly ceiling construction is intended, Expanded Metal Lath is a guarantee of the safety and permanency of the decorations. It is in use in such buildings as the Congressional Library at Washington, D. C., new City Hall, Philadelphia, the Carnegie Library, Pittsburg, and in many of the fine churches throughout the country.

Expanded Metal Lath has been adopted by the government for all public buildings, and is generally specified in plans of the leading architects.

The improvement in facilities for its manufacture has steadily brought the price down until now it is little more expensive than wood lath, and is easily within reach even of those who are building dwellings of very moderate cost.

As its value becomes more widely known, and its use more general, large fires will disappear and people will go about

with a feeling of security that has never been possible hitherto. Insurance premiums will also be reduced as the danger lessens. In fact, on many of the modern buildings in which Expanded Metal Lath has been used the rates have been reduced from a fourth to one half of the regular schedule, owing to the practical impossibility of the destruction of the structures by fire.

And this insurance question is no small consideration in a country that pays \$200,000,000 annually in premiums—just twenty-one times as much as it costs the people of France for the same protection.

Exterior Finishes.

The use of Portland Cement on the exterior walls of dwellings and other buildings is becoming more and more general in this country as the great forests that have heretofore supplied so much of our building material give way to advancing civilization and the price of lumber advances.

In Europe cement has been used for centuries in external finishing, and now that American Portland Cements of superior quality and very moderate cost are being produced, the work of the plasterer is quite largely taking the place of the brick or stone mason in building operations.

Portland Cement crystallizes and hardens with age, and has a much greater resistance than either stone or brick, not only to fire and water, but to air and frost. A well-made wall of

cement is stronger than a wall of sandstone, and three times as strong as an ordinary brick wall.

With the interior walls properly constructed on an Expanded Metal base, a coat of mortar between the ceiling and floor, to cut off each story from the one below it, and the use of just as little wood as possible in bases and casings, danger from internal fires is reduced to a very low point.

On the outside of the studding a covering of light water-proof paper should be attached, and over this should be placed Expanded Metal Lath of half-inch mesh, to act as a base and bond for the cement coating. The cement should vary in thickness, from three-fourths of an inch to an inch and a half in thickness, according to the finish desired. Smooth or lined work does not require so heavy a coat as the pebble dash, irregular range, rock range, or rock-faced



THE OLD BAUM HOMESTEAD, ROUP AND HARRIET STREETS, PITTSBURGH, SHOWN ON THE LEFT IN THE ABOVE ILLUSTRATION, WAS
 ERECTED 1820. IN 1897 AN EXTERIOR FINISH OF CEMENT, ON EXPANDED METAL, ATTACHED TO THE ORIGINAL
 WEATHER BOARDING WAS APPLIED. THE PICTURE ON THE RIGHT SHOWS THE PRESENT
 APPEARANCE OF THE HOUSE.

stone design. Porch rail and columns are finished to correspond with the rest of the house, and the building completed is as nearly fire proof as modern ingenuity can make it. In addition to this, the air space in the outer walls guarantees a freedom from moisture, heat and cold that cannot be obtained in any other way.

Made-Over Houses.

By the use of Expanded Metal Lath and Cement, old frame houses can be transformed into dwellings of such handsome and modern appearance that even their owners would not recognize them if they were to come upon them unexpectedly.

And it can be done, too, at very moderate cost.

All that is necessary is to cover the weather boarding with Expanded Metal Lath and apply a coat of Portland Cement

mortar, made three parts sand and one part cement. Any of the exterior finishes can be used.

And by this treatment the house owner gains not only an improved appearance that enhances the selling value of the property very materially, but he makes his house warmer in winter, cooler in summer, and much less liable to fire of outside origin.

Quite a number of houses in and about Pittsburg have been improved in this manner, and in every case the result has been more than satisfactory.

We show pictures of one building in the East End, Pittsburg, illustrating its appearance before and after receiving its coat of cement. It is one of the oldest buildings in that part of the city, yet at comparatively small cost it has been transformed into as modern and prepossessing a dwelling as any of its more recently built neighbors.

